

WE CLAIM

1. A novel α_2 crystalline form of Imatinib Mesylate which is stable at room temperature and even at higher temperatures like 120°C. and accelerated stress conditions, freely
 5 soluble in water and having the XRPD characteristics given below

Table I

| Angle | d value | Intensity % |
|---------|----------|-------------|
| 2-Theta | Angstrom | % |
| 4.841 | 18.24057 | 33.6 |
| 10.410 | 8.49070 | 100.0 |
| 11.194 | 7.89775 | 14.2 |
| 11.856 | 7.45827 | 19.9 |
| 12.881 | 6.86709 | 6.8 |
| 13.819 | 6.40328 | 12.9 |
| 14.860 | 5.95663 | 67.7 |
| 16.439 | 5.38788 | 32.4 |
| 17.049 | 5.19665 | 5.6 |
| 17.623 | 5.02870 | 58.6 |
| 18.052 | 4.91000 | 61.6 |
| 18.567 | 4.77491 | 98.8 |
| 19.032 | 4.65925 | 70.2 |
| 19.772 | 4.48657 | 15.3 |
| 21.236 | 4.18055 | 60.8 |
| 21.582 | 4.11431 | 59.4 |
| 22.594 | 3.93217 | 19.7 |
| 23.137 | 3.84112 | 21.8 |
| 23.696 | 3.75172 | 25.0 |
| 24.851 | 3.57993 | 58.6 |
| 26.250 | 3.39226 | 9.1 |
| 27.341 | 3.25932 | 18.7 |
| 28.475 | 3.13204 | 42.4 |
| 31.896 | 2.80347 | 9.0 |
| 32.533 | 2.75005 | 6.6 |
| 43.447 | 2.08117 | 6.4 |

2. A process for the preparation of a novel α_2 crystalline form of Imatinib Mesylate
 10 comprises suspending Imatinib base in isopropanol and adding methane sulfonic acid at room temperature and maintaining the reaction mixture at a temperature in the range of 40-80°C, for a period in the range of 20-30 minutes, cooling and filtering to obtain the α_2 crystal form.

3. A process for the preparation of a novel, stable α_2 crystalline form of Imatinib Mesylate which comprises suspending β polymorphic form Imatinib Mesylate in water and organic solvents like methanol, Isopropyl ether, toluene, cyclohexane and Isopropyl alcohol, distilling off water azeotropically and, cooling filtering to obtain the α_2 crystal form.
4. A pharmaceutical composition containing novel α_2 crystalline form of Imatinib Mesylate which is stable at room temperature and even at higher temperatures like 120°C. and accelerated stress conditions, freely soluble in water and having the characteristics given in the Table 1 shown in claim 1 along with the usual excipients useful for the treatment of chronic myelogenous leukemia.
5. A pharmaceutical composition as claimed in claim 1 wherein the active ingredient used ranges from 45% to 60%.
6. A pharmaceutical composition as claimed in claims 6 & 7 wherein the excipients used is selected from microcrystalline cellulose, lactose, croscaperidone XL, colloidal silicone dioxide, magnesium stearate and talc or their mixtures.
7. An improved process for the preparation of Imatinib mesylate β polymorphic form which comprises suspending Imatinib base in a solvent selected from acetone, acetonitrile, mixture of methanol and isopropanol and mixture of isopropanol and water and adding methane sulfonic acid to the resulting solution at room temperature and maintaining the solution at the reflux temperature of the solvent (or) at room temperature and filtering the β -crystal form.